

Sika® FerroGard® Patch

Discrete anode for corrosion mitigation of incipient anode adjacent to patch repairs

Product Description

Sika FerroGard Patch is a discrete sacrificial anode applied to patch repairs on reinforced concrete structures which are corroding as a result of chloride ingress or concrete carbonation.

Sika FerroGard Patch anodes are placed within the parent concrete. Protective current is thus delivered directly to the steel outside the patch which is at greatest corrosion risk as opposed to clean steel within the patch repair.

In addition, there is no compromise in the quality of the concrete repair material that can be used in reinstatement, as is typically the case for sacrificial anodes placed within patch repairs.

The insulating properties of bonding primers prevent their use with traditional patch anodes – however, as **Sika FerroGard Patch** is placed in the parent concrete, primers may be used which lead to an enhanced repair bond (when needed).

Uses

- Installed outside of the spall repair zone into contaminated host concrete, **Sika FerroGard Patch** anodes redress the electrochemical imbalance induced through removal of the corrosion process from steel in the patch.
 - Applied to reinforced concrete structures such as bridges, car parks, coastal structures, industrial structures and residential high rise.
 - Coastal reinforced concrete structures both in and above the tidal zone
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Characteristics / Advantages

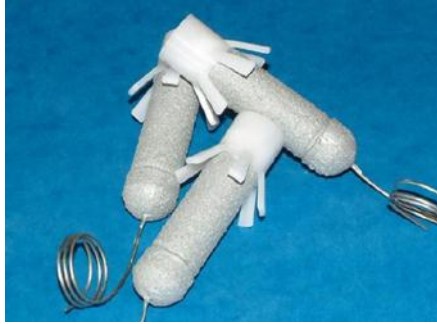
- **Sika FerroGard Patch** anodes corrode preferentially to the surrounding steel, protecting it from further corrosion damage.
 - Protects against incipient anode attack outside of repair zone at the periphery of repair
 - No long term maintenance costs
 - Strengthens passive film
 - Titanium fixings eliminate attack by salt
 - No rapid dissolution of activating components
 - Rapid installation—no additional break out
 - Bonding primers for steel and concrete can be used
 - High resistivity repair mortars can be used
 - Performance can be monitored
 - Cost effective corrosion control solution
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Product Data

Form

Appearance / Colour Cylindrical anodes fitted with titanium wire



Packaging 25 anodes per box, vacuum packed in 5 separate pouches

Dimensions	Products	Zinc content	Holes dimensions
	Sika FerroGard-510 Patch	62 g	45 mm L x 25 mm Ø
	Sika FerroGard-515 Patch	120 g	85 mm L x 25 mm Ø
	Sika FerroGard-520 Patch	180 g	120 mm L x 25 mm Ø

Storage

Storage Conditions / Shelf Life 9 months from date of production if stored in unopened, undamaged and original sealed packaging in dry conditions. Do not allow contact with oxidizing materials. Protect from moisture.

Pouches should only be opened when product is required. Any part used pouches should be re-sealed.

Note that the only effect of off-shelf life is the aspect of the anodes.

Technical Data

Chemical Base Zinc compound

Current density >0.2 -2 mA/m²* in corrosive environment

Life expectancy Up to 30 years* (the lifetime of the unit can be estimated from knowledge of the anode composition and total current requirement.)

***Note** Dependent on local conditions, including chloride concentration, concrete properties, humidity and temperature.

System Information

System Structure **Sika FerroGard Patch** and **Sika FerroGard-500 Crete**
Typically density of **3-9 units** per m² – refer to Sika Technical Department for advice

Ancillary Materials **Sika FerroGard-500 Crete** embedding mortar

Application Conditions / Limitations

Substrate Temperature	+5°C min
Ambient Temperature	+5°C min

Application Instructions

Installation

Application shall be in accordance with the Method Statement and is summarised as follows:

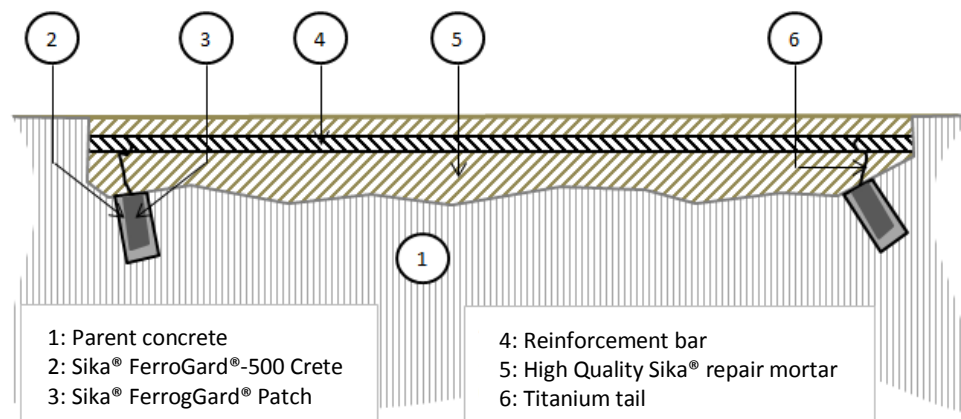
A location for the discrete anodes as close as practical to the edge of the broken out repair shall be selected and holes drilled into the parent concrete within the patch at locations identified by the engineer. A hole of relevant dimensions (refer to table above) shall be drilled to house the **Sika FerroGard Patch** anode unit.

Pre-wet the drilled hole with water for a minimum of 15 minutes. Once the excess water has been removed from the bottom of the hole, **Sika FerroGard-500 Crete** mortar shall be applied into the hole with a nozzle to ensure no entrapment of air voids within the mortar. The **Sika FerroGard Patch** anode shall be placed into the hole and inserted such that the **Sika FerroGard-500 Crete** mortar surrounds the whole unit.

The protruding titanium wire from the anode shall be directly connected to the cleaned reinforcing steel within the patch repair by winding at least twice around the rebar and fixing the tail with the supplied cable tie.

Electrical continuity of the **Sika FerroGard Patch** anode conductors and the reinforcing steel shall be confirmed. The patch repairs shall be immediately reinstated.

The **Sika FerroGard Patch** anode installation can be monitored using half-cell potential surveys, current outputs and reinforcing steel corrosion rate measurements.



Notes on Application / Limitations

In order that suitable current flow and lifetime be achieved from the **Sika FerroGard Patch** anode, certain practical considerations should be taken into account.

The patch repair material cover for **Sika FerroGard Patch** unit must be a minimum depth of 20 mm.

Concrete repairs must be undertaken in accordance with a standard such as EN 1504.

Any discontinuous steel should be either electrically bonded to or electrically isolated from the system negative.

The time to achieve passivity will be dependent on site conditions. Depolarisation of treated steel will be slower in moist conditions.

Design of the galvanic protection system shall be undertaken by a local Engineer and installation guidance in accordance with their technical information

Value Base

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

Sika FerroGard Patch is supplied under license from Concrete Preservation Technologies Limited.

Health and Safety Information

For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.

Design of the **Sika FerroGard Patch** shall be undertaken by a competent designer to address any health and safety issues in the job site.

Legal Notes

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.



Sika Australia Pty Limited
ABN 12 001 342 329

aus.sika.com
Tel: 1300 22 33 48

